Sept. 14, 1993

Per phone conversation with John Edwards - Regarding - Test conducted by (confidential), identified 14 (fourteen)compounds/chemist-insecticides

Few of the chemicals were plastisizer breakdown products, they were not pursued further. The others (14) were searched for patents issued on their use, that is, what they might be good for. This led to a clear pattern - 10 of the 14 are building blocks used in the synthesis of insecticides; one is an insecticide in it's own right; 2 more are reodorants used in insecticide formulation and the 14th, a non-volitalite? carrier or dilutant for insecticide. There are no references to the use of any of these in PVC formulation.

This information was taken from my notes during a phone conversation; hence the above question mark.

At present, the source of this testing information is confidential.

REGERDING DEGRADING INSECT SCREENS MANUFACTURED BY PHIFER WIRE PROBUCTS!

May S. Goldy



### JOHN ENGLER, GOVERNOR DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN/MARTIN L. KING JR., ELVD. P.O. BOX 30195, LANSING, MICHIGAN 48909 Vernice Davis Anthony Director September 21, 1993

Ms. Karin Nanos 25812 Salem Huntington Woods, Michigan 48070

Dear Ms. Nanos:

I have received a telephone call from the U.S. Consumer Products Safety Commission (U.S. CPSC) that to initiate an inquiry the agency needs more letters alleging health complaints caused by window screens (replacement screens). Therefore, I need the cooperation of all the affected citizens in expressing their concerns to U.S. CPSC.

Each letter should be addressed to U.S. CPSC with a copy to me. The U.S. CPSC address is given below:

Dr. Robert Verhalen Executive Director Epidemiology Chemical Hazard Program, Room #600 U.S. Consumer Products Safety Commission 5401 West Bard Avenue Bethesda, Maryland 20816

The letter should state the following:

- The alleged window screens (replacement screens) were manufactured 1. by Pfifer Wire Products, Inc., P.O. Box 1700, Tuscaloosa, Alabama 35403-1700. They were distributed prior to June 1989 (1988-89) by Weathervane Window Inc., 419 Court, Brighton, Michigan 48116.
- It seems that as a result of interaction with sun rays, the window screens change color and emit something to contaminate indoor air. As a result we have experienced some adverse health effects such as allergy, asthma, chronic fatigue immune deficiency syndrome.
- We will appreciate if your Indoor Air Quality Division investigates this problem. We look forward to hearing from you.

I hope the affected citizens will write these letters to U.S. CPSC.

Sincerely,

Kirpal S. Sidhu, Ph.D.

Toxicologist

Division of Health Risk Assessment

Telephone 517-335-8362

FAX 517-335-9434

cc: J. Hesse Z-25:0/91 A. Bloomer

October 1, 1993

SPECIAL DIMERLOS

Dear Mr. Hesse,

Here is a copy of the fax sent to us from John Edwards of Suntrol Inc. in Arizona. Since it's a "fax of a fax", it didn't turn out very clear, so I retyped it.

As I mentioned in our phone conversation today, Mr. Edwards should be receiveing more material regarding this matter. Our one concern is that his source at New York Wire be kept confidential until we receive all the testing information.

Hope all goes well with your remodeling project.

Again, thank you for your time and consideration.

Mary S. Holory

Mary S. Golarz

# 14 INSECTICIDES FOUND IN DEFECTIVE SCREENING MATERIAL MANUFACTURED BY PHIFER WIRE PRODUCTS

September 22, 1993

This letter dated August 5, 1993 was received by a company who questioned the contents of the defective screening material which was apparently similiar to that which was in the home of the Joseph Golarz family for three years.

At present the sources involved are confidential.

The analytical data volatilize from competitive screening that you had sent us was subjected to a literature search using the CAS numbers of the chemicals identified. This was done using Chemical Abstracts On-Line via the Research Laboratory computer network.

A few of the chemicals were phthalate plasticizer breakdown products; they were not pursued further. The others (14) were searched for patents issued on their use, that is, what they might be good for. This led to a clear pattern. TEN of the 14 are building blocks USED IN THE SYNTHESIS OF INSECTICIDES; ONE IS AN INSECTICIDE IN IT'S OWN RIGHT; TWO MORE ARE REODORANTS USED IN INSECTICIDE FORMULATION; AND THE 14th, A NONVOLATILE CARRIER OR DILUENT FOR INSECTICIDES. THERE ARE NO REFERENCES TO THE USE OF ANY OF THESE IN "PVC" FORMULATION.

Under the influence of HEAT and UV (ultra-violet) LIGHT, many organic reactions reverse, leading to regeneration of intermediates. THESE CAN HAVE TOXICOLOGICAL PROPERTIES FAR DIFFERENT FROM THOSE OF THE FINAL PRODUCT. SEVERAL OF THE ABOVE 14 CHEMICAL ARE LISTED (IN CHEMLIST) AS, OR WOULD BE SUSPECTED BY ANALOGY OF BEING TOXIC. WE HAVE NO BASIS TO CONCLUDE HOW SUCH MATERIALS CAME TO BE PRESENT ON THE COMPETITIVE SCREENING. None of the samples of new screening yielded the suspect chemicals. We would be glad to carry out UV light resistance studies on any of your products and to obtain volatiles from such aged products to assist in toxicological studies.



# JOHN ENGLER, GOVERNOR DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN/MARTIN L. KING JR., BLVD. P.O. BOX 30195, LANSING, MICHIGAN 48909 Vernice Davis Anthony, Director

October 20, 1993

Mr. Rudy Trostman Consumer Products Safety Commission 477 Michigan Avenue, Room M5 Detroit, Michigan 48226

Dear Mr. Trostman:

This follows our telephone conversation of October 19. I am glad that CPSC has accepted our request of October 16, 1992 to investigate the alleged indoor air problem attributed to replacement screens, manufactured by Pfifer Wire Products, Inc., P.O. Box 1700, Tuscaloosa, Alabama 35430-1700, prior to June 1989 (between 1988-89) and distributed in this state by Weathervane Window Incorporated, 4th Court, Brighton. The alleged problem may exist in some other states also.

I will compile information about the alleged problem and mail copies of all pertinent documents to you next week.

Nelson Haynes (Oakland County Health Department), John Hesse (Michigan Department of Public Health) and myself will actively work and fully cooperate with you and other members of the CPSC in the investigation of this alleged indoor problem.

I look forward to working together.

Sincerely,

Kirpal S. Sidhu, Ph.D.

Toxicologist

Division of Health Risk Assessment

Telephone 517-335-8362

FAX 517-335-9434

cc: F. Watt

A. Bloomer

J. Hesse

N. Haynes

# MICHIGAN DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN, P. O. BOX 30195 LANSING, MI 48909

477 Michigan Avenue, Room M5 Detroit, MI 48226 Mr. Rudy Trostman CPSC



# JOHN ENGLER, GOVERNOR DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN/MARTIN L. KING JR., BLVD. P.O. BOX 30195, LANSING, MICHIGAN 48909 Vernice Davis Anthony, Director

October 20, 1993

Dr. Robert Verhalen
Executive Director Epidemiology
Chemical Hazard Program, Room #600
Consumer Products-Safety Commission
5401 Westbard Avenue
Bethesda, Maryland 20816

Dear Dr. Verhalen:

I am glad that the Consumers Products Safety Commission has accepted our request to investigate the alleged indoor air problem attributed to replacement screens, manufactured by Pfifer Wire Products, Inc., P.O. Box 1700, Tuscaloosa, Alabama 35430-1700, prior to June 1989 (between 1988-89). We will gladly cooperate with the CPSC.

Sincerely, Kingal S. Sidhu

Kirpal S. Sidhu, Ph.D.

Toxicologist

Division of Health Risk Assessment

Telephone 517-335-8362

cc: F. Watt

A. Bloomer

J. Hesse

## MICHIGAN DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN, P. O. BOX 30185 LANSING, MI 46808

Dr. Robert Verhalen

Exec. Dir. Epi.

CPSC

CPSC

CPSC

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# JOHN ENGLER, GOVERNOR DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN/MARTIN L. KING JR., BLVD. P.O. BOX 30195, LANSING, MICHIGAN 48909 Vernice Davis Anthony, Director

October 20, 1993

Mr. David Schmeltzer
Assistant Executive Director
Office of Compliance Enforcement
Consumer Products Safety Commission
Washington, D.C. 20207

Attention: Ms. Judith Hayes

Dear Mr. Schmeltzer:

I am glad that the Consumers Products Safety Commission has accepted our request of October 16, 1992 to investigate the alleged indoor air problem attributed to replacement screens, manufactured by Pfifer Wire Products, Inc., P.O. Box 1700, Tuscaloosa, Alabama 35430-1700, prior to June 1989 (between 1988-89). We will gladly cooperate with the CPSC.

Sincerely,

Kirpal S. Sidhu, Ph.D.

Toxicologist

Division of Health Risk Assessment

Telephone 517-335-8362

cc: F. Watt

A. Bloomer

J. Hesse

88/4 72-2

## MICHIGAN DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN, P. O. BOX 30185 Lansing, mi 48909

David Schmeltzer
Asst. Exec. Dir.
Office of Compliance Enforcement
CPSC
Washington, DC 20207

Artn: Judith Hayes

To Whom It May Concern:

After our nine year old son, Keith Golarz, experienced several "episodes" where he displayed unusual symptoms, it was determined that he had a very irregular heartbeat.

; .

In order to relate an accurate history to the physician, I called Clayton Environmental in Novi, MI on April 9, 1993. This firm is presently testing screens which were in our home for a three year period. According to the manufacturer, these screens emitted an odor which was apparently due to the premature degrading of the screening material when exposed to "Ultra Violet Rays".

One individual involved in the testing was kind enough to relay the following information to me by phone, and this documentation is taken directly from my notes - hence, not considered technical or definite.

When the tested screens were exposed to 86° F. per Gas Chromatograph / mass spectrometer - the following emissions "were found":

- \* ACETONE
- \* BENZENE
- \* CHLORO BENZENE
- \* STYRENE PLASTOS.(as per notes)
- \*\*\*\* TOLUENE
  - \* PLTHLIC ANHYDRIDE
  - \* ACETIC ACID (vinegar)
  - \* ETHYL HEXANOL
  - \* VARIOUS AROMATIC HYDROCARBONS

The individual with whom I spoke to had plans to talk to Mr. Morgan (of Phifer Wire Products - which is financing these tests) about doing a "dynamic chamber analysis". "The lab study is raising more questions."

Mary S. Golarz

This list pertains to the symptoms experienced by one or more of the Golarz family and which, in retrospect, seemed to arise or be exasperated after the placement of inside casement windows screens by a window distributor who utilizes screening material manufactured by Phifer Wire Products of Tuscalossa, Alabama.

According to documentation from Phifer Wire Products and statements made by this company's representative, for the time period of January 1988 - June 1989 Phifer Wire Products apparently attempted to make their fiberglass screen product more environmently safer by replacing the "TIE BASIC LEAD PHOSPHATE?" in their screens manufactured before 1988 with CALCIUM CADMIUM ZINC STABLIZER IN ALIPHATIC SOLVENT - (See "Ingredients List").

In a letter regarding one family in our neighbor who have complaints of adverse physical effects apparently from exposure to these "odorous screens", the following explanation was given: "In January of 1988 we changed our plastisol stablizer in order to make the product environmentally safer. It had never been dangerous to consumers, but the change made disposal of scrap materoal safer. Though we succeeded in making the product safer, we MISCALCULATED IN MIXING THE PLASTISOL FORMULA for silvergray screening by not putting enough pigment into it. The result was THE MATERIAL WOULD DETERIORATE RAPIDLY WHEN EXPOSED TO DIRECT SUNLIGHT. The odor was associated with this process of RAPID DETERIORATION. BY THE FOLLOWING YEAR, WE HAD HAD SEVERAL PRODUCT FAILURES, discovered their cause, and, in June 1989, improved the plastisol formula (without putting back any dangerous substances), thus ending this problem forever."

Our dwelling had the origional "odorous" screens in place from May 5, 1989 - June 2, 1992. After three attempts to replace our screens with "good" screens, the distributor ordered "aluminum" screens for our home. These screens were in place from September 28, 1992 - October 9, 1992. After a reoccurance of the more obvious symptoms, these screens were removed. In following through, it was determined that the product included a fiberglass material produced by Phifer Wire Products.

Family Members: Joseph G. Golarz, husband, age 50 yrs.

Mary S. Golarz, wife, age 48 yrs.

Susan M. Golarz, natural child (twin), age 20

Kurt J. Golarz, natural child(twin), age 20

Keith J. Golarz, adopted child, age 9

A pertinate fact is that 6 days after the removal of the origional "odorous screen" a dramatic change was noted in the health statis of the mother of the Golarz family. It was an obvious (and miraculous) change to all who had seen her slowly deteriorate from an active wife, mother and Registered Nurse to an invalid. The symptoms of incoherent speech, loss of muscle control and loss of cognitive abilities e.g. memory started to reverse themselves after the screens were removed. Although these are some of these symptoms experienced by persons with Chronic Fatigue Immune Dysfunction, which Mary is still disabled from, the degree of disability has lessened. As one example, a year ago, Mary couldn"t spell much less use her numb hands to hold a pen. Now I, Mary Golarz, learned how and am now using a Word Processor to document these facts.

This is a preface to a multilpe page list of symptoms our family experienced. These symptoms seemed to origionate after the placement of the "odorous screens" in our home.

We know of similar circumstances happening to other households.

It has come to our attention that the deterioration problem exists in several other states.

Note: In the list of following symptoms ----

OSR = Odorous screens removed

\* = Pertains to symptoms experienced primarily by the mother of the family - Mary Golarz

#### SYMPTOMS

#### EYES:

Burning - most noticable in the morning

Visual scotomata - black spots \*

Photophobia - sensitivity to daylight\*

Dryness of the eyes ( \*no tears; even when attempting to yawn)

Tunnel vision - peripheral vision disturbed at times \*

Red eyes (youngest son appeared to have "Pink Eye" upon awakingeyes would be clear when he returned from school)

Blurring of vision

Decreased visual acuity - 3 family members needed glasses

1 needed stronger prescription\* per Optromitrist - eyesight improved

after ordorous screens were removed

Itching of eyes
Pressure type pain behind eyes\*
Pain in outer corners of eyes when looking to far right or left\*

#### RESPIRATORY:

Respiratory stridor\*
Unable to take a deep breath
Dyspnea/Shortness of breath

Respiratory distress exemplified by hyperventalation when indoors for the period of time before OSR - our youngest son would "whistle in and out at a fast pace" - had to have him breathe into a brown paper bag to resolve

Tightness in chest

Difficulty in expiration (feeling unable to "get all the air out")

Constricted (pain like) feeling in mid back \*
Frequent sighing - "gasping"
Raspy throat
Sore throat - red irritation
Hoarseness
Asthma attacks / development of asthma
Wheezing

Productive cough - yellow phlem
- white phlem\* (noted frequently when tongue had thick white coating)

Post nasal drip
Full feeling / "tightness" or " feeling of lump" in throat

See Misc. symptoms regarding 3 family members
Bloody nose
Sinus infections
Coughing up blood tinged fluid
"Burning " of nose
Dryness and itching of nose
Bronchitis
Complete loss of smell\*
Inability to rest or sleep in flat position\*
Unable to sleep in bedroom which had 3 screens - found it
necessary to sleep in Family Room which had no inside
screens \*

#### Oral - GI / Gastric & Intestional

Grinding of teeth -> chipping of teeth & "caps" coming off Clenching of teeth
Need for frequent "root canals"-(\* 5 in one year)
TMJ problems - displacement\*

Lateral displacement of lower jaw \* constant for a period of several weeks

Lower jaw needed to be manually " reduced" back to normal postion by dentist on several occasions during dental proceedures because jaw would lock open \*

Coated " feeling " of tongue

White (thick) substance noted on tongue (Doctors treated this symptom as an oral yeast infection for years)\*

Note - not associated with taking antibiotics

Pain under tongue \*

Enlarged " bumps " under tongue\*

Sore hard raised bumps on the back of tongue \*

Loss of taste \*

Taste like TIN or METAL in mouth

Acrid taste in mouth \* cigarette smoke became intolerable\*

( These foul tastes dissipated completely and have not returned )

Loss of appitite

Itching of the roof of mouth (Susan developed allergies to fruits)

Soft " mushy " texture to oral mucous membranes\*

Tendency to unconcienciously " bite off" inside mucous membranes of cheek \*

Burning of mouth and tongue \*
Fissure like ridges on top of tongue \*
Tongue felt swollen \*
Unable to move tongue to form words \*

Swollen lips\* Cotton mouth - before OSR, no saliva whatsoever; needed to have sips of water in order to attempt to verbalize\*

Oral airway became so dry and apparently swollen at one point that oral inhalation or exhalation became impossible-> respiratory distress and apparent loss of consciousness. Paramedics administered oxygen -> hospitalization. \*

Burning and cracking of lips

Reguritation of food

Canker sores

Spontaneous vomiting - for no apparent reason Development of hiatal hernia with reflux\*

Heartburn

Abdominal pain

Zantac Rx - Dad and Mom ( Mom developed asthma symptoms and had to discontue medication )

Constipation

Lost all feeling of any intestional movement - after 7-10 days of constipation (unresolved by diet, fiber, laxatives, or enema) - only Magnesium Citrate would work.\*

Stools turned white/clay colored for over 1 year - returned to normal after screens were removed \*

Mucous in stools - large amounts\*

Bowel incontinence\*

Blood in stools\*

#### MISC. SYMPTOMS

Constricted feeling in the throat - "choking feeling" Dad - had intermittant sensation that there may be a "growth" in his throat - checked by an Ear, Nose and Throat physician - symptom now

Mom - before OSR, unable to swallow solid food - felt like food got caught half way down throat

Keith- refused to wear any clothing that touched the front of his neck-even soft T-shirts

- for a time, needed take medication with applesauce Lost approx.  $\frac{1}{2}$  of hair on head \*\* new hair growth after screen removal\*

Loss of hair pigment - hair was brown with blonde highlights before screen placement - by  $1\frac{1}{2}$  yrs. later most of hair turned white/blonde \*\*\*\*\*

- eyebrows and body hair was turning white\*

- decreased growth of leg hair\*

"Fragile" skin - abraised or "ripped" opened easily\*

```
Skin easily bruised - falling and bumping into furniture*
Unable to "feel" the pain of injuries on extremeties and in
  certains parts of the leg - unable to feel a touch
Dry skin
Brittle fingernails
Cuticles cracked and open*
Fingertips cracked and sore ( opened fissured wounds )
Cystic acne - cortizone injection needed
Abcesses around eyes with cellulitis after eyeglasses were
   routinely left on shelf below degrading screen in greenhouse
   window* - Manufacturer of greenhouse window uses same supplier
   for screening material as our window screen distributer.
Lump developed on abdomen about the size of a quarter -
  disappeared after screens were removed**
Thich, hard skin on bottom of feet and toes - back to normal
       now*
Skin sensitive to touch*
Spontaneous " goose bumps " last 6 months or so when screens
             were in place*
Unexplained low grade fevers*
Subnormal body temperature*
" Prickly " feeling of skin*
Chills *
Intolerence of cold *
Extremeties constantly " cold "- feet especially*- unable to
    get feet warm at all - even with several layers of
    socks, blankets, and heating pad *
" Liver spots " developed on neck and forehead - now diappearing*
Headaches
Intercostal rib pain
Chest pain
Stiffness of joints
Neck stiffness - "cracking" noises developed
Muscle twitching - Severe in legs*** so intense the twitching
      was visable*
Muscle cramps
Unable to "feel" position of feet*
Feet cold to touch and pale in color - except inner ankles were
    "purple"in color*
Impairment of speech - incoherent - slurred ********
Need to manually move lower jaw up up and down in attempt to
     talk*
Forgetfulness* and memory loss*
Confusion *
Inability to concentrate* - No attention span
" Getting Lost " - unable to drive last few months before screens
                   were removed ***
General loss of cognitive abilities*
Intolerence of alcohol worsened - haven't tolerated for about
     15 yrs.*
Became allergic to all catagories of antibiotics*
Hypersomnia - insomnia
Palpations
Heart "skipping" beats
```

- frequency \*

- need to be catheterized\*

- abnormal IVP\*

Unable to present thoughts verbally in a "logical"manner\* Numbness in forehead\*

Pressure type pain in pelvic area\*

Decrease in libido\* vaginal dryness\*

Drooping of right corner of the mouth ( after lower jaw had been displaced\*

Swollen neck glands

Pressure type pain and burning in left side of neck \*

2 children diagnosed with learning disabilities while odorous screens were in place - one age 17 with ADD

- one age 5½ with ADHD

Nine year old developed need for counseling - he said
"something was in his room", he didn't know what, but
until recently, has been unable to sleep in his
room. Previous to time (at age 8 yrs.) slept only in
his bed.

Note: His room had been one of the most odorous rooms!

- He developed Asthma during this time, but has had NO asthma attacks with the screens removed.
- When indoors, parents noticed that he'd have moments when he seemed unaware-his face would seem to go"blank"-The psychologist decided to evaluate him and observe (possible"petite mal"symptoms?)-----this situation stopped completely after OSR
- -During the time the odorous screens were in place, this child started CHEWING EVERYTHING!!! He chewed his fingernail raw, chewed wood, plastic, metal, clothes, everything-even ELECTRICAL CORDS!!----this resolved totally when the odorous screens were removed!!!!
- -Since Jan. 1993 this child's behavior and attention have improved dramatically as noted by teacher and family -Has developed allergies to Ceftin and Amoxicillin

Mom: Diagnosed as having Chronic Fatigue Immune Dysfunction Syndrome early 1991

- The severity of the Chronic Fatigue Symptoms remarkably decreased after OSR - noted by physicians

Mom: Lost 30 lbs. in about 6 weeks with the 1st set of screens.

Lost 12 lbs. with the Alumaroll screens which had been

in place for 12 days.

Mom: In the months preceding the removal of the odorous screens

- Developed thick, odorous SWEATS all day and night with need to shower 2 or 3 times a day - when she could walkfrequent change of clothes ( clothes became soaked )
- The "yellowish color" was noted on the bed linin(saved)This also resolved when the OSR

Mom: Had HYPOGLYCEMIC reactions several times a day before screens were removed.

Parts of body e.g. shoulder, extremities, noted to have "jerking" type movements\*

Ringing in ears - buzzing in ears\* Sound of heartbeat bounding in ears when laying down\* Hearing loss Frank blood from right ear last 2 weeks before first screens were removed \* Migratory arthralgia without obvious joint swelling\* Myalgia - severe - pain and/or aching\* -Pain became so severe and encompassing, unable to even lift fingers off the bed\* -Many times felt like was "walking on marbles"\* -Swaying gait in attempt not to move joints\* Entire family became ill when 3rd set of replacement screens were in bedroom hallway -> these screens were also . odorous. THE COMPANY AND THE DISTRIBUTOR BOTH STATED THEY DO NOT KNOW WHICH INVENTORY ARE THE DEFECTINE SCREENS - ODOROUS SCREEN ARE APPPARENTLY ON THE MARKET - 1992 D&B-DOCUMENTATE 5000 DISTRIBUTORS for Phifer Wire Products Painful lymph nodes \* Total numbness and loss of hand function - mostly right hand\* Swelling of hands and feet\* Severe wrist and hand pain\* Constantly dropping items \* Radial pulse - barely palpable\* Loss of balance\* Staggering gait\* - still unable to walk a straight line or on heels\* General muscle weakness\*(needed help dressing/walking etc.)\* - EMG -> possible early myopathy bilaterally\* - unable to lift feet off the ground to dress - had to use arms hooked under legs while sitting down \* Atrophy of leg muscle - per biopsy report Feb. 1991\*\* Presently - exam = deep tendon reflexes are decreased in the Achilles and patellar area and decreased vibratory sense in feet\*. Still have left sided weakness\* Profound fatigue\* - bedridden most of the day before OSR Hyperthyroid development - have been on Synthroid for past 21 years (HYPOTHYROID) TSH level became subnormal early 1991 - presently returning to normal!\*\*\* Elevated liver enzymes when screen were in place - back to normal when screens removed. This happened again when the Alumaroll screens were in place \* NOTE: WHEN THE LOCAL DISTRIBUTER REALIZED THAT THE FIBERGLASS SCREENS THEY WERE USING TO REPLACE OUR NEIGHBORHOOD'S ODOROUS SCREENS ALSO RECEIVED COMPLAINTS - THEY ORDERED SCREENS FROM ALUMAROLL SCREEN WHICH ULTIMATELY HAD THE SAME FIBERGLASS MATERIAL SUPPLIED BY THE ORIGIONAL COMPANY (apparently). Neighbors are now complaining of the "electrical" odor coming their replacement screens. RBC's below normal when screens in place\* Unable to use some facial muscles(esp.cheek and forehead areas)\* Bladder Disfunction -decreased urine output \* -incontinence \*

- loss of feeling of urge to void \*

- voided in small amounts \*

### ACCURATE INVESTIGATION REQUEST FORM

Document Number X397545 G2	
Date of Incident 1993 Category I.D. 54(7)5	
Pollow Up Requested Hazard Analysis Section 15	
Type Pollow-Up Requested IDI Telephone Call On-Site	
Headquarters Contact Judith Hayes	
Assignment Message Perform telephone ISI of household	
window percens that have the potential to degrade	
due to exposure to sun. Complaints + testo analyses	
allege persens emit toxic tumes that may cause advers	12
realth effects. Obtain prenario specifics surraunding	
consumer's exposure to screens; any adverse healthetter	t
I so, description & medical records to be obtained.	
Were screen replaced by manufacturer (Phiper) or	
distributor; Sientral or maybe another firm.	-
allect other names of complainants it available.	
Person(s) to contact Mr. & Mrs. Joe Golarz	
(313) 391-1675 MI	
	•
uideline	
. 171	
equested By JH	
15k Number 9309/60002588	
ssigned to CHIO Date 9309/6	

STATE OF MICHIGAN



JOHN ENGLER, GOVERNOR

### DEPARTMENT OF PUBLIC HEALTH

3423 N. LOGAN/MARTIN L. KING JR., BLVD. P.O. BOX 30195, LANSING, MICHIGAN 48909 Vernice Davis Anthony, Director

November 5, 1993

NOV 1 8 1993 9309166662588

Mr. Rudy Trostman Consumer Products Safety Commission 477 Michigan Avenue Room M5 Detroit, Michigan 48226

Dear Mr. Trostman:

This follows my letter of November 2, 1993, regarding Phifer Replacement Screens.

A copy of the report on this subject by Dr. Vaughn E. Wagner, Principal Toxicologist, A & E Consulting Services, Saginaw, Michigan, (June 9, 1993) is enclosed.

Sincerely,

Kirpal S. Sidhu, Ph.D.

Toxicologist

Division of Health Risk Assessment

Telephone 517-335-8362

FAX 517-335-9434

#### Enclosures

cc: F. Watt

A. Bloomer

J. Hesse

N. Haynes

# A & E Consulting Services

## Environmental & Hazardous Materials Specialists

Vaughn E. Wagner, Ph.D.

4877 Basswood Drive Saginaw, Michigan 48603 (517) 799-0940

June 9, 1993

Mrs. Mary Golarz 6710 Sun Valley Drive Clarkston, MI 48348

Dear Mrs. Golarz:

After reviewing the material sent to my attention, it is doubtful that there is a direct linkage between your diagnosed Chronic Fatigue Immune Dysfunction and the apparent subchronic exposure to any of the compounds contained in or emitted from the originally screening material. Given the compounds circumstances described in the documents in your possession, it is hypersensitivity that should be medically investigated to determine if the adverse health effects can be attributed to this type of immune reaction. It is evident that the two routes of exposure primarily impacted are the dermal and respiratory systems. Exposure via these routes to certain chemicals can result in either haptenization of cells in the skin and mucous membranes (Type IV allergenic reactions) or an anaphylactic reaction due to the formation of an antibody (IgE) - antigen complex (Type I allergenic reaction). The former condition is a delayed-type hypersensitivity and can result in contact dermatitis while the latter is an immediate hypersensitivity which usually results in asthma or atopic dermatitis in sensitized individuals.

In addition, photoallergenic reactions cannot be dismissed as a possible source of hypersensitivity as this type of immunological dysfunction also results in a Type IV cell-mediated response. Increased reactivity of the skin to UV and/or visible radiation is produced as a result of a chemically induced photosensitization. Since the coated screens were frequently exposed to sunlight, there might have been absorption of specific wavelengths of light (UV A and or B) by parent or oxidized monomers which resulted in a shortlived, highly reactive excited state molecules capable of converting a hapten to a complete allergen.

#### SPECIFIC CHEMICAL CAUSAL AGENTS

While numerous chemicals are viable candidates for cell-mediated immune reactions, organic monomers used in the plastics industry have been incriminated by toxicological studies as causal agents.

In reviewing the chemical analyses submitted to me, it is evident that similar type compounds were isolated from the weathered screens. These products were present either as parent compounds or as oxidation products of monomers. The general rule with these type of compounds is that the presence of more than one carboxylic acid group per molecule as well as unsaturated bonds in the carbon skeleton increases corrosivity and toxicity (phthalates and acrylates are examples).

#### DOSE RELATIONSHIP

It is interesting to note that certain authors used OSHA occupational standards in their discussion of potentially toxic concentrations in residential settings. As was mentioned previously, carbonyl/carboxylic functional groups can induce sensitization in certain individuals. These agents are usually not present in sufficient amounts to induce the allergenic reaction but must be conjugated to a self-protein to result in an allergenic reaction. Since the concentration of the chemical agent causing this immune reaction is usually well under accepted occupational standards, the utilization of threshold limit values calculated on a time weighted average may not be applicable in homes where sensitized individuals reside.

#### CROSS/MULTIPLE SENSITIVITY

It is important to note that cross/multiple sensitivity can not be ruled out at this time. Cross sensitivity occurs when two or more potential antigens show similar functional groups. In the situation currently under review, a number of compounds were isolated that contained similar functional groups; the carbonyl (ketones and aldehydes) and carboxylic (carboxylic acids and their derivatives) moieties. These functional groups can react in vivo to form reaction products, common metabolites or changes in the carrier proteins. The resultant sequelae may be cross or concomitant sensitization. These adverse reactions may be enhanced if the skin's epidermis (site of active metabolism) biotransforms compounds with similar functional groups to more toxic intermediate epoxides.

#### CONCLUSION AND RECOMMENDATIONS

While the symptoms you have described are quite extensive. it is evident that the Type IV (delayed hypersensitivity) and Type I (immediate hypersensitivity) are the allergenic reactions of

concern. Further medical investigations are warranted with the carbonyl and carboxylic moieties targeted as prime candidates for inducing allergenic reactions in susceptible individuals. If a sensitivity to these products has manifested itself, practical steps could be taken to minimize exposure to synthetic materials. Examples are: substitute, where possible, natural fibers (cotton, wool) for synthetic ones; replace resin and acrylic finishes with wood and metal materials; and use activated charcoal filtering modular systems on water supplies and air stream sources.

Finally, as to your chronic fatigue immune dysfunction, I would suggest that a determination should be made (if it hasn't already) as to whether the stated condition is a primary or secondary immunodeficiency. The former is genetic, is genetically acquired and can effect specific or nonspecific components of the immune system; the latter is an acquired immunodeficiency, is more common and has a number of causal agents (chemical/nonchemical as well as the aging process). It is important to note that there is literature to indicate increased infection as well as neoplastic conversions associated with the primary immunodeficiency diseases. Once a medical determination has been made as to which category your condition belongs to then specific medical strategies can be designed and implemented to successfully mitigate or improve your condition.

Hopefully, this toxicological review will provide some insights that can aid you in satisfactorily surmounting the medical problems facing you. If you have any further questions please do not hesitate in contacting me.

Sincerely,

Vaughn E. Wagner, Ph.D. Principal Toxicologist

cc: John Hesse Carl Schier